

PATENT
Docket H 4318 US

In re: Application of SCHMIEDEL, et al.

PRELIMINARY AMENDMENT

Please enter the amendments below before examining this case on the merits:

On page 1, between the title and line 1, insert the heading --BACKGROUND OF THE INVENTION--.

IN THE CLAIMS:

1. (amended) A laundry detergent or cleaning product, comprising an active [customary] ingredient[s] that is[, further comprising an active substance preparation which has been] compounded with an LCST polymer.
2. (amended) A laundry detergent or cleaning product, comprising an [customary] active [substances and] ingredient[s] that is[, in which the active substances have

been] compounded at least in part with an LCST polymer, wherein a fraction of the active substance[s] has been applied to a carrier material[s].

3. (amended) The laundry detergent or cleaning product as claimed in claim 2, wherein the carrier material[s are] is one or more selected from the group consisting of zeolites, bentonites, silicates, [e.g., water glasses,] disilicates, carbonates, [especially alkali metal carbonates,] hydrogen carbonates, sulfates, phosphates, and [also] synthetic polymers[, such as polyethylene glycols, polycarboxylates, crosslinked polycarboxylates, polyvinyl alcohols with different degrees of hydrolysis, or polyvinyl acetate, and organic oligocarboxylic acids which are solid at room temperature].

Please cancel claim 4.

5. (amended) The laundry detergent or cleaning product as claimed in [any of] claim[s] 1 [to 4], wherein the active ingredient [substance has been] is at least in part coated with an LCST polymer.

6. (amended) The laundry detergent or cleaning product as claimed in [any of] claim[s] 1 [to 4], wherein the active ingredient [substance preparation has been] is at least in part embedded in a matrix comprising an LCST [substance] polymer.

7. (amended) The laundry detergent or cleaning product as claimed in [any of] claim[s] 1 [to 6], wherein the LCST polymer is selected from the group consisting of cellulose derivatives, mono- or di-N-alkylated acrylamides, copolymers of mono- or di-N-substituted acrylamides with acrylamides and/or acrylates and/or acrylic acids, polyvinyl alcohol and

copolymers thereof, [such as polyvinyl alcohol-vinyl acetate copolymers,] polyvinyl methyl ethers, polyvinylcaprolactam, polyvinylpyrrolidone and its copolymers, polyisopropylloxazoline, polyamino acids, [and/or] proteins, and combinations thereof.

8. (amended) The laundry detergent or cleaning product as claimed in claim 7, wherein the LCST polymer is selected from the group consisting of polyvinyl alcohol-vinyl acetate copolymers, cellulose ethers, polyisopropylacrylamide, copolymers of polyisopropylacrylamide, and blends of these substances.

9. (amended) The laundry detergent or cleaning product as claimed in [any of] claim[s] 1 [to 8], wherein the lower critical separation temperature of the LCST [substance] polymer is [situated] between 20°C and [90]100°C.

10. (amended) The laundry detergent or cleaning product as claimed in [any of] claim[s] 1 to] 9, wherein the lower critical separation [heat treatment is conducted at a] temperature of the LCST polymer is between [20°C and 150°C, preferably between] 30°C and 90°C.

11. (amended) The laundry detergent or cleaning product as claimed in [any of] claim[s] 1 [to 10], wherein the active ingredient compounded [active substance preparation] with the LCST polymer is at least in part coated with a [further] coating substance [which] that dissolves or melts at a temperature above the lower critical separation temperature of the LCST polymer [substance is soluble or which has a melting point above this temperature] or that has a retarded solubility in water.

12. (amended) The laundry detergent or cleaning product as claimed in claim 11, wherein the [further] coating substance comprises one or more [is selected from] hydrophilic polymers[, such as polyvinyl alcohols, polyethylene glycols, water-soluble polysaccharides, water-soluble polyurethanes, xanthan, guar gum, alginates, chitosan, carrageenan, polysulfonates, shellac, polyacrylates and copolymers thereof and also any desired mixtures of the above].

13. (amended) The laundry detergent or cleaning product as claimed in [any of] claim[s] 1 [to 12], wherein the ingredient is at least in part [substances, or active substances and carrier material, are] coated with the LCST polymer [substance].

14. (amended) The laundry detergent or cleaning product as claimed in claim 13, wherein the active ingredient is at least in part [substances, or active substances and carrier material, have first been] coated with a layer of a water-soluble polymer, [to] which layer of water-soluble polymer is at least in part coated by the LCST polymer coating [substance is applied].

16. (amended) The laundry detergent or cleaning product as claimed in [any of] claim[s] 1 [to 15], which is in solid to gel form[, in the form of a powder, granules, extrudates, single-phase or multiphase tablets, capsule of any desired form, or pouches].

17. (amended) The laundry detergent or cleaning product as claimed in [any of] claim[s] 1 [to 16], [which is a textile detergent and, as] comprising one or more active [substances, comprises textile handle components,] ingredients selected from the group consisting of enzymes, fragrances, dyes, fluorescence agents, optical brighteners,

shrink preventatives, antcrease agents, antimicrobial active substances, germicides, fungicides, antioxidants, antistatics, easy-iron agents, repellency and impregnating agents, UV absorbers, and any [desired] mixtures thereof [the above].

18. (amended) The laundry detergent or cleaning product as claimed in [any of] claim[s] 1 [to 16], which is a machine dishwashing composition and comprises, as the active [substances and] ingredient[s] [which have] that has been compounded with the LCST [substance] polymer, one or more substances selected from the group consisting of builders, cobuilders, acids, [such as citric acid,] amidosulfonic acid, citrate, hydrogen sulfate, surfactants, fragrances, dyes, bleaches, [preferably an active chlorine carrier, and] complexing agents, soil repellents, [such as phosphonates, for example, including] complexing surfactants, and [also] any [desired] mixtures thereof [the above, and further customary ingredients].

19. (amended) The laundry detergent or cleaning product as claimed in claim 18, wherein the active [substance preparation is] ingredient compounded with the LCST polymer comprises a particulate rinse aid.

20. (amended) The laundry detergent or cleaning product as claimed in claim 19, wherein the particulate rinse aid has particle sizes of between 0.1mm and 35 mm[, preferably between 1.0 and 20 mm, and in particular between 2 and 20 mm].

21. (amended) The laundry detergent or cleaning product as claimed in claim 18, which has at least two phases A and B, wherein the phase[(s)] A comprises[ing] a carrier

material[s] and [also] the active ingredient [substances] compounded with the LCST polymer [substance].

Please cancel claim 22.

23. (amended) The laundry detergent or cleaning product as claimed in claim 21 [22], wherein the active [substances are] ingredient compounded with the LCST polymer comprises one or more substances selected from the group consisting of surfactants, [especially rinse aid surfactants,] builder/cobuilders, bleaches, bleach activators, corrosion inhibitors, scale inhibitors, silver protectants, and fragrances [and also, if desired, further ingredients in small amounts].

24. The laundry detergent or cleaning product as claimed in [any of] claim[s] 21 [to 23], wherein phase B is a base tablet comprising customary ingredients for machine dishwashing compositions.

25. The laundry detergent or cleaning product as claimed in [any of] claim[s] 21 [to 24], wherein phase B comprises a plurality of individual phases [which if desired are visually distinguishable on the outer face of the tablet].

Please add new claims 26-36:

26. The laundry detergent or cleaning product as claimed in claim 3, wherein the carrier material is one or more selected from the group consisting water glasses, alkali metal carbonates, polyethylene glycols, polycarboxylates, crosslinked polycarboxylates, polyvinyl alcohols with different degrees of hydrolysis, polyvinyl acetate, and

organic oligocarboxylic acids that are solid at room temperature.

27. A process of laundering or cleaning textile or hard surface, comprising the steps of forming a laundry detergent or cleaning product at least in part by compounding an active ingredient with an LCST polymer, forming a wash liquor comprising the laundry detergent or cleaning product, contacting the textile or surface with the wash liquor at a temperature above the critical separation temperature of the LCST polymer, whereby the active substance compounded with the LCST polymer remains at least partly unchanged following exposure to the temperature above the critical separation temperature of the LCST polymer, and contacting the remaining unchanged active substance compounded with the LCST polymer with a liquid medium at a temperature at or below the critical separation temperature of the LCST polymer, whereby the active substance is released into the liquid medium.

28. The process of claim 27, wherein the temperature above the critical separation temperature of the LCST polymer is between 20°C and 150°C.

29. The process of claim 28, wherein the temperature above the critical separation temperature of the LCST polymer is between 30°C and 90°C.

30. The laundry detergent or cleaning product as claimed in claim 10, wherein the lower critical separation temperature of the LCST polymer is between 30°C and 50°C.

31. The laundry detergent or cleaning product as claimed in claim 12, wherein the coating substance comprises compounds selected from the group consisting of polyvinyl alcohols,

polyethylene glycols, water-soluble polysaccharides, water-soluble polyurethanes, xanthan, guar gum, alginates, chitosan, carrageenan, polysulfonates, shellac, polyacrylates and copolymers thereof, and any mixtures thereof.

32. The laundry detergent or cleaning product as claimed in claim 1, in the form of a powder, granule, extrudate, single-phase or multiphase tablet, capsule of any desired form, or pouch.

33. The laundry detergent or cleaning product as claimed in claim 20, wherein the particulate rinse aid has particle sizes of between 1.0mm and 20 mm.

34. The laundry detergent or cleaning product as claimed in claim 20, wherein the particulate rinse aid has particle sizes of between 2mm and 20 mm.

35. The laundry detergent or cleaning product as claimed in claim 23, wherein the active ingredient compounded with the LCST polymer comprises a rinse aid surfactant.

36. The process of claim 27, wherein the laundry detergent or cleaning product is a machine dishwashing composition and comprises, as the active ingredient that has been compounded with the LCST polymer, one or more substances selected from the group consisting of builders, cobuilders, acids, amidosulfonic acid, citrate, hydrogen sulfate, surfactants, fragrances, dyes, bleaches, complexing agents, soil repellents, surfactants, and any mixtures thereof, said machine dishwashing composition having at least two phases A and B, wherein the phase A comprises a carrier material and the active ingredient compounded with the LCST polymer, and wherein the exposure to the temperature above the critical

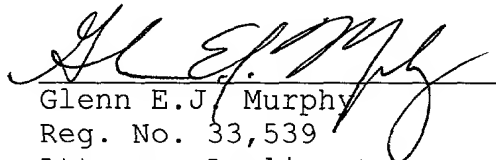
separation temperature of the LCST polymer occurs in a main wash cycle of an automatic dishwasher, and wherein the active ingredient compounded with the LCST polymer is released into the liquid medium in a cycle following the main wash cycle.

REMARKS

Claims 1-3, 5-14, 16-21, and 23-25 have been amended, claims 4 and 22 have been canceled, and new claims 16-22 have been added. Claims 1-3, 5-14, 16-21, and 23-25 as amended are intended to present the subject matter of the original claims, which were drafted for examination in the German patent office, in form for U.S. examination and not to depart from the scope and substance of the original claims. New claims 26-36 present subject matter described in the original claims and in the specification at page 6, lines 1-4. No new matter has been added.

Applicants respectfully request entry of this Amendment and examination of the application. If any fees are due to entering this paper that have not been accounted for, please charge Deposit Account No. 01-1250.

Respectfully submitted,



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